



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD2AEG-P31-840-A-POE EXAM ONLY_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TESTLAB] GEN from Intertek
 [ISSUEDATE] 17-AUG-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.64836
 [LUMINAIRE] 2X2' LED TROFFER
 [MORE] FROSTED ACRYLIC DIFFUSER
 [LUMCAT] AMD2AEG-P31-840-A-PoE EXAM ONLY
 [LAMPCAT] HLM 80 CRI, 4000K CCT
 [_SEARCH_SOURCE] LED
 [_SEARCH_APPLICATION] INDOOR, DIRECT, OFFICE, EDUCATION
 [_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3534
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	29.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.26
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3463	3460	3589
55	2875	3097	3211
65	2241	2577	2125
75	1666	1660	1233
85	1070	817	659

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0.0	1540.337	1540.337	1540.337	1540.337	1540.337
2.5	1539.385	1536.528	1535.209	1538.579	1540.411
5.0	1535.136	1531.473	1528.689	1529.568	1531.327
7.5	1525.832	1520.484	1516.675	1515.649	1513.671
10.0	1511.254	1505.100	1497.921	1495.210	1492.939
12.5	1491.474	1485.027	1475.577	1469.569	1464.808
15.0	1465.540	1458.654	1447.006	1438.581	1432.647
17.5	1434.552	1425.907	1413.014	1403.490	1396.677
20.0	1397.849	1388.619	1373.967	1363.637	1355.799
22.5	1356.092	1345.762	1330.671	1320.561	1313.162
25.0	1310.745	1298.657	1282.174	1273.383	1266.789
27.5	1262.321	1248.695	1232.138	1225.765	1220.929
30.0	1211.845	1197.633	1181.736	1176.974	1173.897
32.5	1158.147	1143.788	1129.283	1127.744	1125.693
35.0	1100.199	1086.866	1074.559	1077.562	1077.269
37.5	1038.369	1026.647	1017.417	1023.644	1025.768
40.0	974.341	964.011	958.151	968.627	973.315
42.5	906.650	898.957	897.492	912.950	921.521
45.0	836.834	831.779	836.175	856.980	867.236
47.5	767.238	766.726	775.150	801.523	813.172
50.0	697.716	702.331	717.129	747.239	754.784
52.5	629.805	639.109	661.380	690.463	694.492
55.0	563.506	577.645	607.095	628.560	629.365
57.5	499.551	517.353	552.883	561.088	543.140
60.0	437.501	458.819	495.961	477.573	461.383
62.5	378.235	402.776	437.647	404.241	381.458
65.0	323.584	350.909	372.227	332.301	306.881
67.5	272.962	301.753	307.320	263.731	242.120
70.0	227.175	256.259	249.373	205.637	187.689
72.5	185.051	212.011	194.868	156.627	143.367
75.0	147.323	167.982	146.810	117.873	109.082
77.5	112.892	126.078	106.005	87.324	82.050
80.0	82.416	89.302	73.259	62.636	59.706
82.5	55.457	56.556	46.373	40.878	38.461
85.0	31.868	29.450	24.322	21.392	19.633
87.5	11.209	9.304	8.498	8.645	8.571
90.0	0.000	0.000	0.000	0.000	0.000
92.5	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000

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CANDELA TABULATION - (Cont.)

135.0	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.073	0.000	0.073
152.5	0.000	0.000	0.073	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000
157.5	0.147	0.073	0.000	0.293	0.073
160.0	0.073	0.000	0.220	0.147	0.073
162.5	0.293	0.073	0.073	0.073	0.220
165.0	0.073	0.073	0.220	0.147	0.293
167.5	0.293	0.073	0.147	0.147	0.073
170.0	0.073	0.073	0.220	0.147	0.147
172.5	0.000	0.073	0.293	0.366	0.000
175.0	0.220	0.000	0.147	0.220	0.293
177.5	0.220	0.147	0.220	0.220	0.073
180.0	0.220	0.220	0.220	0.220	0.220

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	552.80	N.A.	15.60
0-30	1144.69	N.A.	32.40
0-40	1820.32	N.A.	51.50
0-60	3008.11	N.A.	85.10
0-80	3501.71	N.A.	99.10
0-90	3534.08	N.A.	100.00
10-90	3388.94	N.A.	95.90
20-40	1267.53	N.A.	35.90
20-50	1919.01	N.A.	54.30
40-70	1529.06	N.A.	43.30
60-80	493.60	N.A.	14.00
70-80	152.33	N.A.	4.30
80-90	32.37	N.A.	0.90
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.08	N.A.	0.00
110-180	0.08	N.A.	0.00
0-180	3534.15	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	145.14
10-20	407.66
20-30	591.89
30-40	675.64
40-50	651.48
50-60	536.30
60-70	341.27
70-80	152.33
80-90	32.37
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.02
160-170	0.04
170-180	0.02

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	104	104	104	104	101	101	101	101	97	97	97	93	93	93	89	89	89	87
1	96	92	89	86	93	90	87	84	86	84	82	83	81	79	80	78	77	75
2	88	81	76	71	86	80	75	70	77	72	69	74	70	67	71	68	66	64
3	81	72	65	60	79	71	65	60	68	63	59	66	61	58	64	60	57	55
4	74	64	57	52	72	63	57	51	61	55	51	59	54	50	57	53	49	48
5	68	58	50	45	67	57	50	45	55	49	44	53	48	44	52	47	43	42
6	63	52	45	40	62	52	45	39	50	44	39	49	43	39	47	42	38	37
7	59	48	40	35	57	47	40	35	46	39	35	44	39	35	43	38	34	33
8	55	44	37	32	54	43	36	32	42	36	31	41	35	31	40	35	31	29
9	51	40	33	29	50	40	33	29	39	33	28	38	32	28	37	32	28	27
10	48	37	31	26	47	37	30	26	36	30	26	35	30	26	34	29	26	24

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

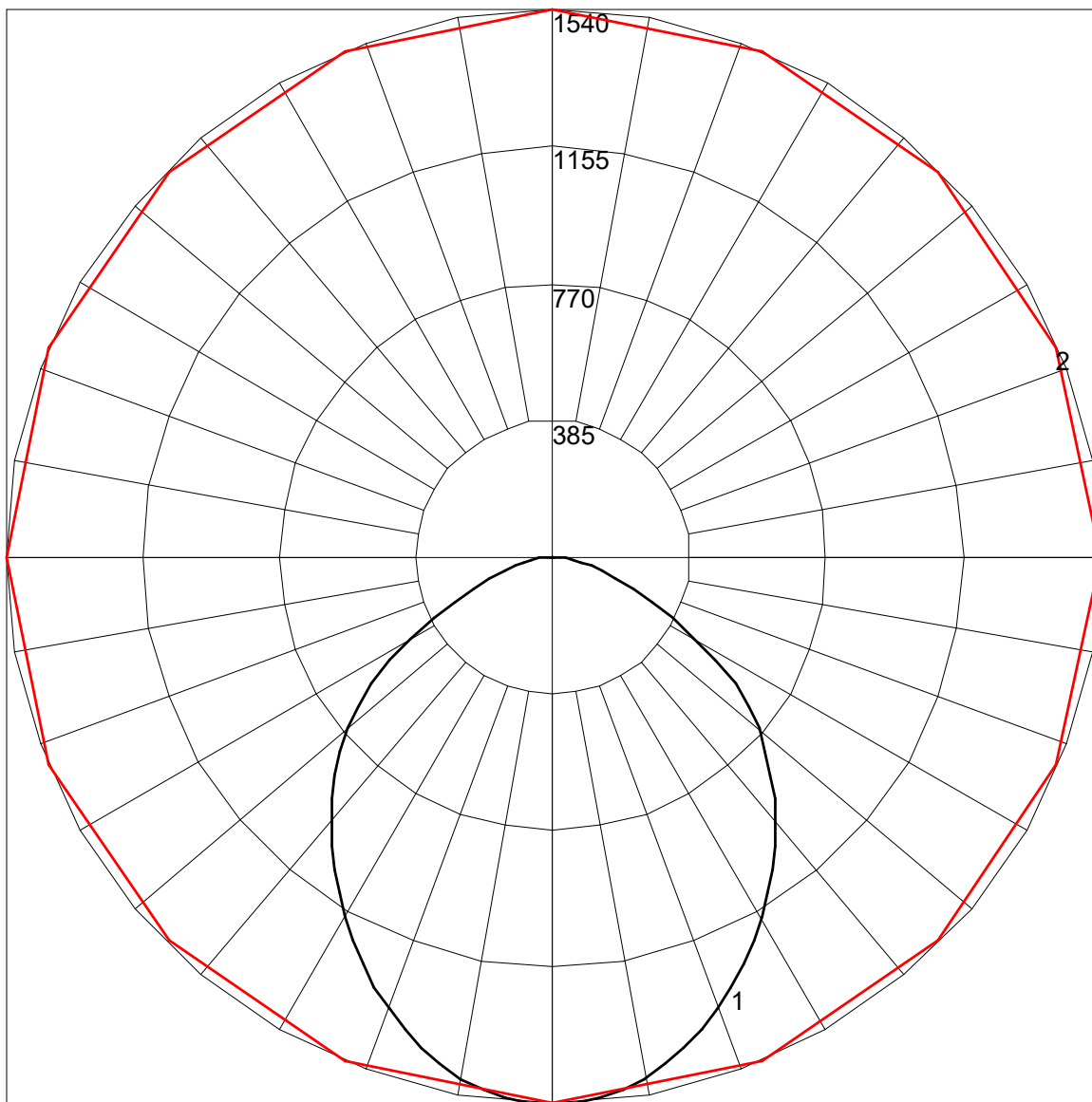
X=2H	Y=2H	15.9	17.5	16.3	17.8	18.1	16.5	18.0	16.8	18.3	18.6
	3H	17.3	18.7	17.6	19.0	19.3	17.3	18.7	17.7	19.0	19.4
	4H	17.7	19.0	18.1	19.4	19.7	17.5	18.8	17.9	19.2	19.6
	6H	18.0	19.2	18.4	19.6	20.0	17.7	18.9	18.1	19.2	19.6
	8H	18.1	19.2	18.5	19.6	20.0	17.7	18.8	18.1	19.2	19.6
	12H	18.1	19.2	18.5	19.6	20.0	17.7	18.8	18.1	19.2	19.6

UGR Viewed Endwise

4H	2H	16.5	17.8	16.9	18.2	18.6	17.0	18.3	17.4	18.6	19.0
	3H	18.1	19.1	18.5	19.5	20.0	18.0	19.1	18.4	19.5	19.9
	4H	18.6	19.6	19.1	20.0	20.5	18.3	19.3	18.7	19.7	20.1
	6H	19.0	19.9	19.5	20.3	20.8	18.5	19.3	18.9	19.8	20.2
	8H	19.1	19.9	19.6	20.4	20.8	18.5	19.3	19.0	19.8	20.2
	12H	19.2	19.9	19.7	20.4	20.8	18.5	19.3	19.0	19.7	20.2
8H	4H	18.8	19.6	19.2	20.0	20.5	18.5	19.3	18.9	19.7	20.2
	6H	19.2	19.9	19.7	20.4	20.9	18.7	19.4	19.2	19.9	20.3
	8H	19.4	20.0	19.9	20.5	21.0	18.8	19.4	19.3	19.9	20.4
	12H	19.5	20.0	20.0	20.5	21.1	18.8	19.4	19.4	19.9	20.4
12H	4H	18.8	19.5	19.3	20.0	20.4	18.5	19.2	19.0	19.7	20.1
	6H	19.3	19.8	19.8	20.3	20.9	18.8	19.3	19.3	19.8	20.3
	8H	19.4	20.0	19.9	20.4	21.0	18.9	19.4	19.4	19.9	20.4

Maximum UGR = 21.1

POLAR GRAPH



Maximum Candela = 1540.411 Located At Horizontal Angle = 90, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)